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Docket No. F-8421

Ser. No. 10/526,658

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently Amended) A switch device comprising:

an operation portion externally operated and a switch portion free to be mounted to or dismounted from each other; and

the switch portion including a first contact and a second contact displaceable into or out of contact with each other, wherein a removing force externally applied for dismounting said operation portion and said switch portion from each other acts is transmitted to at least one of said first contact and said second contact to separate said first contact and said second contact off from each other.

2. (Original) A switch device according to claim 1, wherein said operation portion comprises a pushbutton which, when receiving an operating force externally applied thereto for opening or closing said first contact and said second contact, moves to transmit the operating force to said switch portion thereby effecting said opening or closing of the contacts, wherein said removing force is applied by turning either one of said operation portion and said switch portion about a moving direction of the pushbutton.

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3. (Original) A switch device according to claim 1, wherein either one of said first contact and said second contact is designed to be movable in said switch portion, wherein said operation portion comprises a pushbutton which, when receiving an operating force externally applied thereto for opening or closing said first contact and said second contact, moves to transmit the operating force to the movable one of said first contact and said second contact thereby effecting said opening or closing of the contacts, and wherein the removing force is applied by turning either one of the operation portion and the switch portion about a moving direction of the pushbutton.

4. (Original) A switch device according to claim 2, further comprising converting means for converting said removing force into a force working in the same direction as said operating force and transmitting the resultant force to said switch portion.

5. (Original) A switch device according to claim 3, further comprising converting means for converting said removing force into a force working in the same direction as said operating force and transmitting the resultant force to the movable one of said first contact and said second contact.

6. (Original) A switch device according to claim 4, wherein said converting means is helically engaged with said pushbutton thereby converting said removing

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force applied by the turning motion into the force working in the same direction as said operating force and transmitting the resultant force to said switch portion.

7. (Original) A switch device according to claim 5, wherein said converting means is helically engaged with said pushbutton thereby converting said removing force applied by the turning motion into the force working in the same direction as said operating force and transmitting the resultant force to the movable one of said first contact and said second contact.

8. (Original) A switch device according to claim 4, wherein said pushbutton has a substantially cylindrical shape having a center axis extended in the same direction as said operating force, wherein said converting means comprises: a pushbutton support which is formed in a corresponding shape to that of said pushbutton and in a slightly larger size than that of said pushbutton, and in which said pushbutton is inserted; a projection formed on either one of a circumferential surface of said pushbutton and a circumferential surface of said pushbutton support; and a helical guide formed in the other circumferential surface as inclined relative to said center axis, and wherein said projection is engaged with said guide thereby converting said removing force into the force working in the same direction as said operating force.

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9. (Previously Presented) A switch device according to claim 5, wherein said pushbutton has a substantially cylindrical shape having a center axis extended in the same direction as said operating force, wherein said converting means comprises: a pushbutton support which is formed in a corresponding shape to that of said pushbutton and in a slightly larger size than that of said pushbutton, and in which said pushbutton is inserted; a shaft member connecting the movable one of said first contact and said second contact with said pushbutton support; a projection formed on either one of a circumferential surface of said pushbutton and a circumferential surface of said pushbutton support; and a helical guide formed in the other circumferential surface as inclined relative to said center axis, and wherein said projection is engaged with said guide thereby converting said removing force into the force working in the same direction as said operating force.

10. (Previously Presented) A switch device comprising:

a switch assembly including a first contact and a second contact displaceable relative to each other to contact each other when at a first position and to move out of contact with each other when at a second position;

an operation device removably engageable with said switch assembly by displacement relative to said switch assembly effected by user applied installation and removal forces respectively of a removal operation and an installation operation, said operation device including a displaceable portion displaceable by a switching

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operation of a user and disposed in connection to at least said first contact to effect displacement of said first and second contact to said first and second positions in response to said switching operation; and

said switch assembly including a force transmitting structure engaging said operation device and configured to apply said user applied removal force to at least said first contact to displace said first contact from said first position to a position whereat said first and second contacts are not in contact with each other.

11. (Previously Presented) The switch device accordingly to claim 10 wherein:

said first contact has a force transmitting member with a first engagement structure;

said displaceable portion has a second engagement structure engageable with said first engagement structure;

said first and second engagement structures being relatively displaceable by said user removal operation and configured to apply said user applied removal force to said first contact.

12. (Previously Presented) The switch device accordingly to claim 11 wherein said operation device and said switch assembly include mounting structures effecting mounting and dismounting of said operation device to said switch assembly

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at least in part by relative rotational motion of said operation device and said switch assembly effected by said installation and removal operations.

13. (Previously Presented) The switch device accordingly to claim 12 wherein said user removal operation on said operation device transmits rotation motion to said second engagement structure to rotationally move said second engagement structure relative to said first engagement and convert said rotation motion of said displaceable portion to a linear motion of said first engagement structure disengaging said first contact from said second contact.

14. (Previously Presented) The switch device accordingly to claim 13 wherein said displaceable portion is linearly displaceable relative said operation device and is rotationally restricted in motion relative said operation device such that said user removal operation on said operation device transmits said rotation motion to said second engagement structure.

15. (Previously Presented) The switch device accordingly to claim 14 wherein said displaceable portion is linearly displaced by said switching operation and transmits linear motion to said first engagement structure to linearly move said first

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engagement structure and thereby effect movement of said first and second contacts relative to each other to and from said first and second positions.

16. (Previously Presented) The switch device accordingly to claim 15 wherein one of said first and second engagement structures includes a spiral structure and another one of said first and second engagement structure includes a protrusion engaged with said spiral to effect conversion of said rotation motion of said displaceable portion to said linear motion of said first engagement structure disengaging said first contact from said second contact.

17. (Previously Presented) The switch device accordingly to claim 16 wherein said first engagement structure is connected to said first contact via said force transmitting member which is formed as a shaft member displaceably mounted in said switch assembly to permit said linear motion of said first engagement structure and to restrict rotational motion of said shaft member about an axis of said shaft member relative to said switch assembly.

18 (Previously Presented) The switch device accordingly to claim 10 wherein said operation device and said switch assembly include mounting structures effecting mounting and dismounting of said operation device to said switch assembly at least

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in part by relative rotational motion of said operation device and said switch assembly effected by said installation and removal operations.

19. (Previously Presented) The switch device accordingly to claim 18 wherein said displaceable portion is linearly displaceable relative said operation device and is rotationally restricted in motion relative said operation device such that said user removal operation on said operation device transmits said rotation motion to said displaceable portion.

20. (Previously Presented) The switch device accordingly to claim 11 wherein said first engagement structure is connected to said first contact via said force transmitting member which is formed as a shaft member displaceably mounted in said switch assembly to permit linear motion of said first engagement structure and to restrict rotational motion of said shaft member about an axis of said shaft member relative to said switch assembly.